REMARKS

I.   Examiner Interview

Applicant's representative, Kevin Soules, conducted an interview of Examiner Steven Kau on August 25, 2010. The Applicant provided the Examiner with a set of proposed claim amendments via fax. The Examiner indicated that the Application had not been approved for allowance by the Examiner's supervisor. The Examiner further indicated that narrowing amendments to the claims might improve the patentability of the invention over the prior art. The Examiner indicated that he did not have authority to speak to the possible allowability of the Application based on the provided proposed claim amendments. The Examiner and the Applicant's representative briefly discussed the cited prior art.

The Applicant respectfully thanks the Examiner for his participation in the Examiner interview. The Applicant respectfully notes that, per the Examiner's suggestion, the claims have been amended to more narrowly claim the present invention. The Applicant respectfully asserts that these amendments sufficiently distinguish the present invention from the prior art so that the Application is now in condition for allowance.

II.   Claim Rejections – 35 U.S.C. § 103

Requirements for Prima Facie Obviousness

The obligation of the examiner to go forward and produce reasoning and evidence in support of obviousness is clearly defined at M.P.E.P. §2142:

> The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

M.P.E.P. §2143 sets out the three basic criteria that a patent examiner must satisfy to establish a *prima facie* case of obviousness:

1. some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
2. a reasonable expectation of success; and
3. the teaching or suggestion of all the claim limitations by the prior art reference (or references when combined).

It follows that in the absence of such a *prima facie* showing of obviousness by the Examiner (assuming there are no objections or other grounds for rejection), an applicant is entitled to grant of a patent. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443 (Fed. Cir. 1992). Thus, in order to support an obviousness rejection, the Examiner is obliged to produce evidence compelling a conclusion that each of the three aforementioned basic criteria has been met.

Applicant further notes that the U.S. Supreme Court ruling of April 30, 2007 (*KSR Int'l v. Teleflex Inc.*) states:

"The TSM test captures a helpful insight: A patent composed of several elements is not proved obvious merely by demonstrating that each element was, independently, known in the prior art. Although common sense directs caution as to a patent application claiming as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the art to combine the elements as the new invention does."

"To facilitate review, this analysis should be made explicit."

The U.S. Supreme Court ruling states that it is important to identify a *reason* that would have prompted a person to combine the elements and to make that analysis *explicit*.

Shimizu in view of Mahy

In the Final Office Action dated June 30, 2010, claims 10-12, 15-16, and 19-20 stand rejected under 35 USC 103(a) as being unpatentable over Shimizu et al (US 7,167,277), hereinafter "Shimizu", in view of Mahy (US

5,832,109), hereinafter "Mahy", and Mestha et al (US 6,236,474), hereinafter "Mestha".

Regarding claim 10, in the Examiner interview, the Examiner indicated that narrowing the claims may distinguish the present application from the cited prior art. In addition, in the Final Office Action, the Examiner argued the Shimizu and Mahy references teach or suggest all the structures presently included in claim 10. Therefore, the Applicant has amended claim 10 to include more of the specific structures described in the Applicant's disclosure.

The Applicant respectfully believes these narrowing amendments distinguish the present invention from the prior art in several ways. For example, the amended claim 10 describes two independent transformation modules. While the Applicant disagrees that any of the references teach or suggest a transformation module as claimed, the Applicant respectfully asserts that there is absolutely nothing in the cited prior art that teaches the use of two separate transformation module structures as claimed.

In addition, amended claim 10 now describes a feed back control loop which comprises, an adder, an iterative controller, a transformation module, a image processor, and a color sensor. The Applicant respectfully asserts that the specific arrangement of structures in the system claimed is not taught or suggested in the combined prior art.

Finally, the Applicant has amended the claims to more specifically describe the manner in which each of the cited elements operates. For example, the Applicant has provided explicit explanation of how the iterative controller operates. The Applicant respectfully asserts the claim now fully distinguishes the iterative controller from the "controller of a printer" that "processes color value for each pixel" as cited in the Final Office Action. Therefore, the Applicant respectfully asserts that the combined prior art references fail to teach or suggest this limitation of claim 10.

In addition, similarly detailed explanations are provided regarding the claimed color sensor, the first and second transformation modules, and the iterative controller. The Applicant respectfully asserts that the specific claim

limitations are not taught or suggested by the cited elements in the prior art, which fail to describe the specific structures and functionalities described in the present claims.

In view of the extensive amendments made to claim 10, and in light of the Examiner's suggestion in the Examiner interview to narrow the claims, the Applicant respectfully asserts the reference fails to teach or suggest all the limitations of the claims as required to establish prima facie obviousness. Therefore, the Applicant respectfully requests the rejection of claim 10 be withdrawn.

Regarding claim 11, the Examiner argued claim 11 recites identical features as claim 10. Thus, arguments similar to that presented above for claim 10 are also equally applicable to claim 11.

The Applicant respectfully asserts that claim 11 further distinguishes the present invention from the prior art. Specifically, claim 11 explains that the claimed second transformation module may be used for transforming a dimensional order. The Applicant respectfully asserts that the reference does not teach or suggests the specific functionality of a second transformation module as claimed. Therefore, the Applicant respectfully requests the rejection of claim 11 be withdrawn.

Regarding claim 12, the Examiner argued "Shimizu teaches wherein said particular dimensional order comprises a three-dimensional order" (arguing "color conversion table is used to store the calculated three-dimensional arrays of C[L][a][b], M[L][a][b] and Y[L][a][b] citing col. 12, lines 30-42).

The Applicant notes if an independent claim is not obvious any claim dependent on that claim is also not obvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). The Applicant respectfully submits Claim 12 is a dependent claim. Therefore, based on the arguments made in favor independent claim 10, the Applicant requests the rejection of claim 12 be withdrawn.

Regarding claims 15 and 16 The Examiner admitted Shimizu does not teach a transformation module where said module further comprises a

transformation module for reducing said three-dimensional order to a one dimensional order.

The Examiner argued Mahy teaches such a transformation (arguing Mahy discloses a mathematical model showing how a 3-dimensional order is reduced to 1-dimensional order, citing col. 12, lines 36-64).

Therefore, the Examiner argued it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Shimizu to include a transformation module that reduces a three-dimensional order to said one-dimensional order as taught by Mahy because it helps to determine the exact boundaries of the color gamut per lightness level from a set of discrete points (citing col. 4, lines 17-43). Therefore, by combining Shimizu with Mahy, a predicable success of controlling out-of-gamut memory and index color can be achieved.

The Applicant respectfully disagrees with this assessment. In the Examiner interview, the Examiner indicated that the Mahy reference is cited as teaching or suggesting the concept which is applied to the Shimizu structure.

The Applicant respectfully reminds the Examiner that according to MPEP § 2143.01 the proposed modification cannot render the prior art unsatisfactory for its intended purpose and the proposed modification cannot change the principle of operation of a reference. A simple description of the properties of color gamut boundaries and the fact that the Neugebauer equations "immediately reveal that a 1-ink process transforms onto a straight line in color space" (see col. 12, lines 63-64) do not establish how the reference might fit with Shimizu without changing its mode of operation.

Additionally, in view of the amendments to claim 10, it is clear that the reference fails to teach or suggest all of the structural features of the claim. Therefore, the Examiner's argument that Shimizu teaches the structures to which the Mahy concept is applied is no longer valid.

Therefore, the limitations of claims 15 and 16 are not taught or suggested by Mahy and claims 15 and 16 are therefore not obvious. The

Applicant respectfully requests, in light of the above argument, that the rejection of claims 15 and 16, based on 35 USC 103, be withdrawn.

Regarding claim 19, The Examiner argued Shimizu teaches a color rendering device associated with a transformation module wherein said transformation module is integrated with said image processing device (citing Figs. 6-7 and 18-19, a color conversion table for printer for converting L*a*b values to CMY values, citing col. 60 to col. 12, line 19).

The Applicant respectfully disagrees with this assessment. First, the Applicant respectfully directs the Examiner's attention to the amendment of claim 19. The Examiner will note that the claim now more clearly explains that the second transformation module is the module integrated in the image processing device.

The Applicant concedes Shimizu does teach a system in which a color-rendering device is present. This is made clear in Fig. 19 and col. 28 lines 53-55. However, the key feature of claim 19 is that the second transformation <u>module is integrated with the image processing device</u>. The Shimizu reference makes no mention of such integration. The material cited by the Examiner describes the printer <u>creating</u> a color conversion table; not the <u>integration</u> described in the claims.

The Applicant respectfully notes that the Examiner specifically explained that the structures of the claims represent those limitations which carry patentable weight. As a structural limitation of the present invention, it is crucial to understand that the present limitation requires that the transformation module be integrated with the image processing device. The Examiner has cited a color-rendering device, and a color conversion chart. This is not the same as a transformation module integrated with a color rendering device.

In addition, the color conversion chart does not teach a transformation module as claim 10 now describes more specifically. More importantly the color conversion chart is not integrated in the color rendering device. Thus, the elements cited by the Examiner fail to teach either functionally or structurally the limitations of the present claims.

As a final point, in the rejection of claim 10, the Examiner admitted "Shimizu does not explicitly disclose a transformation module for automatically reducing said particular dimensional order...". The Examiner has, in effect, admitted that no transformation module is present in Shimizu. This logically means it is impossible that Shimizu now teaches the integration of such a transformation module in a color rendering device.

The Examiner has repeatedly failed to respond to this argument in any capacity. The Applicant respectfully asserts the fact that the Examiner has explicitly admitted the Shimizu reference does not teach a transformation module and then later argues the reference teaches a transformation module integrated with an image processing device clearly indicates that the references fail to teach or suggest the specific limitations of claim 19.

The Applicant respectfully reminds the Examiner that if even one of the limitations of the Applicant's claims is not taught or suggested in the prior art a case of prima facie obviousness has not been established. Thus, every argument presented by the Examiner and Applicant deserves careful attention. The Applicant respectfully requests that the rejection of claim 19, based on 35 USC 103, be withdrawn.

Regarding claim 20, The Examiner argued Shimizu teaches an iterative controller whose iterative output is input to said color rendering device (arguing Input/Output Device 25 of Fig. 18 and Printer 32 of Fig. 19), such that said iterative output of said iterative controller reflects a plurality of compensated color values requiring correction for rendering variations thereof (arguing "the process of color transform and compensation is performed for each color value data of each pixel by the controller of a printer, citing col. 1, lines 30-40; arguing "thus the processes of figs 5-16, must be repeated for each pixel color value data).

The Applicant respectfully disagrees with that assessment. The Applicant respectfully requests the Examiner review the amendment to claim 10 which more clearly describes the function of the iterative controller claimed. As amended, the Applicant respectfully asserts it is clear that the

"printer controller" cited does not teach or suggest the iterative controller claimed.

Further, neither the input/output device 25 nor printer 32 shows an iterative controller output as input to a color rendering device. Indeed, neither figure shows any input of any kind. Thus, the Applicant respectfully asserts these figures do not teach "an iterative controller's iterative output is input to said color rendering device". The fact that the reference includes figures of Input/Output devices and printers has literally, no connection with the limitation of claim 20. In order for these figures to read on claim 20 they must include some indication of an iterative controller, output from that controller, and that output being used as input. None of these features of the claim are taught or suggested by Figs. 18 and 19. The Applicant respectfully requests the rejection of claim 20 be withdrawn.

Shimizu in view of Mahy and Mestha and further in view of Holub

In the Final Office Action dated June 30, 2010, claims 13-14, 17-18, and 21-22 were rejected under 35 USC 103(a) as being unpatentable over Shimizu et al (US 7,167,277), hereinafter "Shimizu", in view of Mahy (US 5,832,109), hereinafter "Mahy", and Mestha et al (US 6,236,474), hereinafter "Mestha", and further in view of Holub (US 6,750,992), hereinafter "Holub".

Regarding claim 13, The Applicant respectfully asserts the dependent claim upon which claim 13 is dependent is no longer obvious in view of the prior art. Therefore, claim 13 is also not obvious.

In addition, the Applicant respectfully disagrees that the cited language in Mahy teaches or suggests a "transformation module", which is defined by Mahy as a mathematical function that expresses color value (col. 1, lines 44-50 of Mahy). This means even by the standard defined in Mahy, this is not a "transformation module" and certainly not a "compensation

module" as claimed. The Applicant asserts Mahy does not teach or suggest the limitations of claim 13 necessary to establish prima facie obviousness.

Further, the Examiner argued Holub teaches "compensation function LUTs to compensate for any non-linearities between light intensity". However, as the Examiner will note this is not the limitation being claimed. Rather, the present claim describes a compensation module as part of a transformation module used to reduce a three-dimensional order to a two dimensional order.

To reiterate, the Applicant is not claiming the "option of converting color transformational components of the Virtual Proof into standardized file formats"; rather the Applicant is claiming a compensation module for reducing said three-dimensional order to a two-dimensional order using a standard International Color Consortium (ICC) framework.

The Applicant respectfully asserts the fact that the reference and the claims share the words "International Color Consortium" is not enough to establish that the references teach a compensation module that uses an ICC framework to convert a three-dimensional order to a two dimensional order. The context of the reference to the ICC in Holub is completely unrelated to the specific limitations of claim 13.

The Applicant respectfully requests the rejection of claims 13, based on 35 USC 103, be withdrawn.

Regarding claim 14, during the Examiner interview the Examiner indicated that Shimizu teaches the structures of the present invention while Mahy teaches the concept. However, in the rejection of claim 14, the Examiner argued Mahy teaches the "transformation (or compensation) module..." The Applicant respectfully asserts according to the amended claims neither Mahy nor Shimizu teach or suggest the structure of the multiple transformation modules claimed.

Further, Fig. 3 is described as "the colorant domain of the boundary 2-ink process with c3=0% of a 3-ink process with a total colorant limitation of 250%." This offers literally, no teaching or suggestion of order reduction

based on the dynamic determination of which color has attained a gamut limit as claimed.

Finally, col. 14, lines 34-64 highlights, that Mahy's "concept" is different from the present invention. The material cited teaches "a color gamut description ... for a limitation on the sum of three colorants of 250%". Again, this simply fails to teach the specific limitations of claim 14 in any capacity.

The Examiner concluded by citing col. 4, lines 17-43 in an effort to establish a motivation for the combination of Mahy and Shimizu. However, the cited language offers absolutely no explanation of how the order reduction described in claim 13 would improve the Shimizu invention, as required by the holding in KSR Int'l v. Teleflex Inc. and the cited material from the MPEP. The Applicant respectfully asserts the Examiner has failed to establish prima facie obviousness. The Applicant therefore, respectfully requests the rejection of claim 14 be withdrawn.

Regarding claims 17 and 18, the Applicant respectfully disagrees that col. 11, line 65 –col. 12, line 19 ever discusses an offline sensor as the Examiner claims. The Applicant has carefully read and reread the material but no teaching or suggestion of an offline sensor is present. The cited material does give a generalized overview of the system of nodes used in the Holub reference. This clearly does not teach or suggest an offline sensor.

In addition, the material the Examiner cited as teaching an inline sensor does not read on the present invention. The referenced material specifically explains, the preferred method of such a sensor is a faceplate for a computer screen to alter the view a user sees from the screen. No skilled artisan would find the claimed inline sensor analogous to the computer face plate cited. The inline sensor described in the present invention is intended to be an independent element included in the system (in-line) as described, not a faceplate on a computer screen.

The Applicant once again reminds the Examiner that <u>prima facie</u> <u>obviousness requires more than a recitation of the words from a claim in a</u>

reference without consideration of context and, in this case, the explicit description of the element as a computer screen faceplate.

Finally The Examiner cited "improve[d] communication, control and quality of color reproduction" as motivation for the inclusion of the Holub sensor in Shimizu. However, the Examiner has failed to explicitly explain how the inclusion of a computer faceplate in the Shimizu reference would improve its function. In other words, there is no reasonable expectation that the combination of the computer monitor face plate with the Mahy or Shimizu invention would successfully produce Applicant's invention.

The Applicant respectfully requests the rejection of claims 17 and 18 be withdrawn.

Regarding claim 21, the Examiner argued Shimizu teaches wherein said color rendering device comprises a printer (citing Printer 32 and Fig. 19).

The Applicant agrees with this assessment. However, the Applicant refers the Examiner to the above argument regarding non-obvious dependent claims (In re Fine). In light of this argument, the Applicant respectfully requests that the rejection of claim 21, based on 35 USC 103, be withdrawn.

Regarding claim 22, the Examiner argued Shimizu teaches wherein said color rendering device comprises a photocopy machine (arguing Input/Output device 25 of Fig. 18).

The Applicant respectfully disagrees with that assessment. It is important to appreciate that a photocopy machine is never mentioned in the Shimizu reference. It is further worth noting that I/O devices include an extraordinarily large number of possible devices. Thus, it appears the specificity of this claim has not been considered, taught or suggested by the Shimizu reference. This is further evidenced by the constant reference in the Shimizu reference to printers but the lack of a single reference to a photocopy machine.

It is unclear to the Applicant why this argument is not persuasive. Based on the specific language from the Shimizu reference, it is clear that

interpreting element 25 as a photocopy machine is far beyond the intent or scope of the Shimizu disclosure. The Applicant respectfully requests that the rejection of claim 22, be withdrawn.

Shimizu in view of Mahy

In the Final Office Action dated June 30, 2010, claims 1-5 stand rejected under 35 USC 103(a) as being unpatentable over Shimizu et al (US 7,167,277), hereinafter "Shimizu", in view of Mahy (US 5,832,109), hereinafter "Mahy".

Regarding claim 1, in the Examiner interview, the Examiner indicated narrowing claim amendments might serve to improve the present claims patentability over the prior art. Therefore, according to the Examiner's suggestion claim 1 has been amended to more clearly claim the present invention.

For example, claim 1 has been amended to include the step of selecting a memory color from a user interface. Neither of the cited references teach or suggest a method step wherein a user selects a memory color as described in claim 1.

Further, the claim has been amended to describe the use of several matrices as described in the Applicant's specification, which are used in the transformation of an out of gamut color to an in gamut color. The Applicant respectfully asserts that neither of the references teach or suggest the use of a Jacobian matrix, a transformation matrix, and a gain matrix as specifically described in Applicant's claim 1.

In view of these narrowing amendments, the Applicant respectfully asserts that the cited references fail to teach or suggest all the limitations of claim 1.

The Applicant also respectfully disagrees that Mahy teaches the use of a dedicated gamut mapping function. The following is a summation of the material the Examiner cited as teaching the above limitations:

- "a color gamut description for a limitation on the sum of the three colorants of 250%"
- the inversion of an n-ink process based on printer model
- a factual discussion of the properties of 3-dimensional space geometry
- graphs representing "the cross section of the color gamut in CIELAB..."
- and a description of those graphs.

The Applicant respectfully asserts that these combined teachings from the reference do not teach a gamut mapping function as claimed. Specifically, any number of graphs will include surface and axes points. Citing a graph with surface points and axes points does not teach or suggest the specific limitations of the claim because the graph cited is not analogous to a dedicated gamut mapping function or its use to reduce dimensional order.

Additionally, the Examiner argued Mahy teaches "maintaining said color's hue", citing col. 21, lines 10-31. However, the words "maintained constant hue" do not appear in the referenced material as the Examiner suggests through quotation. The fact that this discussion includes the word "hue" does not mean that the reference teaches the specific limitations of the claim.

With respect to the first prong of the aforementioned Prima Facie Obviousness test, the Applicant reminds the Examiner that <u>the language of the references may not be taken out of context and combined then without motivation, in effect producing the words of the claims (and sometimes, not even the words or concepts of the claims), without their meaning or context</u>. Based on the arguments presented above the Applicant respectfully requests the rejection of claim 1, based on 35 USC 103, be withdrawn.

Regarding claim 2, the Applicant notes if an independent claim is not obvious any claim dependent on that claim is also not obvious. In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). The Applicant respectfully submits Claim 2 is dependent on amended claim 1 which is not obvious in

view of the cited prior art. Therefore, based on the arguments made in favor independent claim 1, the Applicant requests the rejection of claim 2 be withdrawn.

Regarding claim 3, the Examiner stated the claim recites identical features to claim 12. As the Examiner will note, claim 3 includes a limitation that the three-dimensional order is represented by the colors cyan, magenta, and yellow. This limitation differs from any limitation described in claim 12. The Examiner has failed to offer any citation to the prior art references which teaches or suggests this limitation. Therefore, with regard to claim 3, the Examiner has failed to establish a case of prima facie obviousness. The Applicant respectfully requests the rejection of claim 3 be withdrawn.

Regarding claim 4, the Examiner stated the claim recites identical features to claim 13. As such, the Applicant respectfully asserts the arguments made in favor of claim 13 apply equally to the rejection of claim 4. The Applicant respectfully requests the rejection of claim 4 be withdrawn.

Regarding claim 5, the Examiner stated the claim recites identical features to claim 15. As such, the Applicant respectfully asserts the arguments made in favor of claim 15 apply equally to the rejection of claim 5. The Applicant respectfully requests the rejection of claim 5 be withdrawn.

Shimizu in view of Mahy and further in view of Terekhov

Claim 6 stands rejected under 35 USC 103(a) as being unpatentable over Shimizu in view of Mahy and further in view of Terekhov (US2004/0096104).

Regarding claim 6, the Applicant respectfully disagrees with the Examiner's assessment. The Examiner cited Figs. 8A, 8B, and 9 as teaching the ray based approach described in claim 6. However, the specification of Terekhov specifically states that Fig. 8A illustrates distribution rays in a plane, Fig. 8B illustrates points where those rays intersect the boundary of the device gamut, and Fig. 9 illustrates an example of ray-triangle-inclusion.

Nothing in this description suggests the approach of drawing a ray <u>from a point through a neutral axis,</u> as specifically claimed in the present invention.

The Examiner's own admission that the Terekhov approach consists of a ray "<u>from</u> L*-axis …" <u>highlights the fact that, in the reference, the ray originates at the axis and not at the desired color</u>. As such, the Examiner's own words have established the reference fails to teach or suggest a ray-based approach where the ray <u>originates at a desired color and is traced through a neutral axis as claimed</u>.

It is unclear why the argument presented above is not persuasive. The reference specifically explains that the ray originates "from L*-axis" not from the desired color. No skilled artisan would find a ray originating from an axis analogous to a ray originating from a specific color. The reference also fails to teach that the ray is traced though a neutral axis. The Applicant has cited specific language from the reference itself that directly contradicts the Examiner's interpretation of the material. The Applicant respectfully requests the rejection of claim 6, based on 35 USC §103 be withdrawn.

Shimizu in view of Mahy and Terekhov and further in view of Holub

Claims 7 and 8 stand rejected under 35 USC 103(a) as being unpatentable over Shimizu in view of Mahy and Terekhov and further in view of Holub (US 6,750,992).

Regarding claim 7 and 8, the Applicant respectfully asserts the arguments made in favor of 17 and 18 apply equally against the rejection of claims 7 and 8. In the interest of brevity those arguments are not repeated. The Applicant respectfully requests the rejection of claims 7 and 8 be withdrawn.

Shimizu in view of Ohkub

Claims 23 stands rejected under 35 USC 103(a) as being unpatentable over Shimizu in view of Ohkub (US 6,229,916), hereinafter "Ohkub".

Regarding claim 23, the Applicant respectfully requests the Examiner review the amendment to the claim. The Examiner will note the clam has been amended to include a step wherein a user selects a memory color from a user interface. The Applicant respectfully asserts this limitation is not taught or suggested by the combined prior art references.

The Examiner has specifically stated, numerous times, that Shimizu does not teach or suggest a transformation module. Thus, the Applicant respectfully asserts that it is logically impossible that Shimizu could teach or suggest that memory color values are provided to a transformation module when Shimizu does not teach or suggest a transformation module.

The Applicant respectfully notes that the present claim includes two independent method steps involving a transformation function and a second transformation module. As noted above, the Examiner has explicitly admitted that the Shimizu reference does not teach or suggest a transformation module. Thus, the Applicant respectfully asserts that the reference fails to teach or suggest either of these limitations as the Examiner has explicitly admitted.

Further, the Examiner's rejection of claim 23 specifically states "the programmed process is executed and performed by a computer... data is automatically provided as input to the image processing device shown... ". Thus, the Examiner has specifically stated on the record that the reference does not teach providing color values as input to a transformation module. Instead the reference teaches providing input to the image-processing device. This discrepancy in teaching (providing input to a transformation module as claimed v. providing input to an image processing device as taught) is sufficient to render claim 23 not obvious in view of the references.

The Applicant respectfully disagrees that Shimizu teaches or suggests transforming L*a*b* memory color values into NCD memory color values using a transformation function. The Examiner argued Fig. 5, step 5 and col. 10 lines 12-35 teach transforming an L*a*b* color value into an NCD color

value. However, the material cited actually teaches a conversion of an L*a*b* color to another L*a*b* color so that the color data is shifted to a point near the color gamut. There is absolutely no reason to accept that the "transformations" in the reference are from a memory color to the same color using NCD coordinates.

The Examiner then cites color point P6 as teaching "NDC". However, Shimizu specifically states "the closest neighborhood method converts the point (P6) to be converted to a point on the color gamut boundary closest to the point to be converted". No skilled artisan would read the above description of an L*a*b* conversion to a new L*a*b* value and the description provided of point P6 and think to convert an L*a*b* memory color to an NCD memory color as claimed.

In summation (1) there is no mention of NCD coordinates anywhere in the reference, (2) the reference specifically teaches that the L*a*b* value is transformed to a new value, whereas the claim specifically states the L*a*b* value is converted to the same value in an NCD coordinate space, and (3) the reference, by Examiner's admission, does not teach a transformation module.

The Shimizu reference also fails to teach or suggest a feedback loop for minimizing error between measured color and the desired L*a*b*. In the rejection of the claim, the Examiner specifically states the steps are repeated "when a color point falls outside the gamut until it values are adjusted, or transformed within the gamut". The Examiner will note the present limitation does not say the feedback loop is run until the color falls within the gamut. The limitation does state the feedback loop is run until the error is minimized between the measured color and the desired L*a*b*.

Any number of methods may be used to convert colors so that they are within a device gamut. However, that is not analogous to error minimization as specifically claimed. Indeed one major problem with gamut control is that colors can be converted to in gamut with little trouble, but the resultant color is often not true to the original image because the error associated with the conversion is considerable.

The Examiner equated an NCD color with "the value of a color outside the gamut". This is an improper interpretation of an NCD color. As Applicant's specification explains a "color 112 is also generally associated with directional axes D, C, and N". Further one skilled in the art would understand an NCD coordinate system as a "system, where N is a vector coincident with the desired ray, and C and D are two orthogonal unit vectors at right angles to N." The system is used in the present invention for performing transforms as described throughout Applicant's specification. As such, Examiner's citation to "value of a color outside the gamut" is insufficient to teach or suggest the use of NCD coordinates or values as specifically claimed.

Thus, the Examiner's explanation of how Ohkubo teaches or suggests NCD color values provided to an adder is simply incorrect. The reference does not <u>ever</u> teach, suggest, or even contemplate the use of NCD coordinates as claimed in any capacity and is fully inapplicable as a reference to teach or suggest the same.
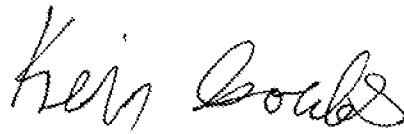
Being that neither Shimizu nor Ohkubo ever discuss NCD coordinates in any capacity it is clear that the limitations of claim 23 are not obvious in view of those references. Thus, the Applicant respectfully requests the rejection of claim 23 be withdrawn.

III. Conclusion

In view of the foregoing discussion, the Applicant has responded to each and every rejection of the Final Official Action. The Applicant has clarified the structural distinctions of Applicant's invention via the discussion and amendments provided herein. Applicant respectfully requests the withdrawal of the rejections under 35 U.S.C. §103 based on the preceding remarks. Reconsideration and allowance of Applicant's application is also respectfully solicited. Applicant is also open to any suggestions from the Examiner, which the Examiner believes would place the Application in condition for allowance.

Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact the undersigned representative to conduct an interview in an effort to expedite prosecution in connection with the present application.

Respectfully submitted,

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